

Claims:

1. A method for managing Walsh Codes in a Code Division Multiple Access (CDMA) cellular wireless communication system, the method comprising:

assigning a plurality of Walsh Codes to the mobile terminal, wherein each of the

5 plurality of assigned Walsh Codes corresponds to a cell or sector providing forward link transmissions to the mobile terminal;

determining that an insufficient number of unused Walsh Codes are available; and

limiting the number of cells or sectors providing forward link transmissions to the mobile terminal to thereby limit the number of Walsh Codes being employed in servicing the

10 mobile terminal.

2. The method of claim 1, limiting the number of cells or sectors providing forward link transmissions to the mobile terminal to thereby limit the number of Walsh Codes being employed in servicing the mobile terminal comprises terminating at least one forward

15 link serviced by the number of cells or sectors for the mobile terminal.

3. The method of claim 2, wherein terminating at least one forward link serviced by the number of cells or sectors for the mobile terminal comprises:

20 determining a weakest forward link serviced by the cells or sectors for the mobile terminal; and

terminating the weakest forward link serviced by the number of cells or sectors for the mobile terminal.

4. The method of claim 3, wherein the weakest forward link is determined based upon the strength of corresponding pilot signals, as measured and reported by the mobile terminal.

5. The method of claim 4, wherein a plurality of reports of pilot signal strengths are used in conjunction with averaging operations to determine the weakest forward link.

6. The method of claim 1, limiting the number of cells or sectors providing forward link transmissions to the mobile terminal to thereby limit the number of Walsh Codes employed in servicing the mobile terminal comprises:

terminating a weakest forward link when the mobile terminal is in five-way hand-off;

and

terminating two weakest forward links when the mobile terminal is in six-way hand-off.

7. The method of claim 1, wherein limiting the number of cells or sectors providing forward link transmissions to the mobile terminal to thereby limit the number of Walsh Codes being employed in servicing the mobile terminal includes terminating a forward link in a sector that has reached a Walsh code availability threshold.

8 A method for managing Walsh Codes in a Code Division Multiple Access (CDMA) cellular wireless communication system, the method comprising:

assigning a plurality of Walsh Codes to each of a plurality of serviced mobile terminals, wherein each of a plurality of Walsh Codes servicing a mobile terminal

5 corresponds to respective forward link transmissions;

determining that an insufficient number of unused Walsh Codes are available; and

limiting the number of forward links that may be employed for each of the plurality of mobile terminals to thereby limit the number of Walsh Codes being employed by:

terminating at least one forward link for at least some of the plurality of
10 mobile terminals; and

limiting the number of forward links that may be employed for hand-off.

9. The method of claim 8, wherein terminating at least one forward link for at least some of the plurality of mobile terminal comprises:

15 for each of the plurality of mobile terminals that are being serviced by a number of forward links that exceeds a forward link limit, determining a respective weakest forward link servicing the mobile terminal; and

terminating the respective weakest forward link servicing the mobile terminal.

20 10. The method of claim 9, wherein the respective weakest forward link is determined based upon the strength of corresponding pilot signals, as measured and reported by the mobile terminal.

11. The method of claim 10, wherein a plurality of reports of pilot signal strengths are used in conjunction with averaging operations to determine the weakest forward link.

12. The method of claim 8, wherein terminating at least one forward link
5 participating for at least some of the plurality of mobile terminals comprises:

terminating a weakest forward link for each mobile terminal being serviced by five forward links; and

terminating two weakest forward links for each mobile unit being serviced by six forward links.

10

13. The method of claim 8, wherein a forward link in a sector that has reached a Walsh code availability threshold is terminated.

14 A base station controller that supports Code Division Multiple Access (CDMA) operations, the base station controller comprising:

a Mobile Switching Center (MSC) interface that interfaces the base station controller to a MSC;

5 at least one base station interface that interfaces the base station controller to a plurality of base stations; and

at least one digital processor coupled to the base station interface and to the MSC interface; and

10 a plurality of software instructions that are executed by the processor, the plurality of software instructions comprising:

software instructions that, upon execution by the processor, cause the base station controller to, assign a plurality of Walsh Codes to each of a plurality of serviced mobile terminals, wherein each of a plurality of Walsh Codes servicing a mobile terminal corresponds to respective forward link transmissions;

15 software instructions that, upon execution by the processor, cause the base station controller to determine that an insufficient number of unused Walsh Codes are available; and

20 software instructions that, upon execution by the processor, cause the base station controller to limit the number of forward links that may be employed each of the plurality of mobile terminals to thereby limit the number of Walsh Codes being employed by terminating at least one forward link for at least some of the plurality of mobile terminals and limiting the number of forward links that may be employed for subsequent hand-offs.

15. The base station controller of claim 14, wherein in terminating a forward link participating for a mobile terminal, the base station controller determines a respective weakest forward link for the mobile terminal and terminates the respective weakest forward link.

5 16. The base station controller of claim 15, wherein the base station controller determines the respective weakest forward link based upon the strength of corresponding pilot signals, as measured and reported by the mobile terminal.

10 17. The base station controller of claim 16, wherein a plurality of reports of pilot signal strengths are used in conjunction with averaging operations to determine the weakest forward link.

15 18. The base station controller of claim 14, wherein in terminating at least one forward link for at least some of the plurality of mobile terminals the base station controller terminate a weakest forward link for each mobile terminal being serviced by five forward links and terminates two weakest forward links for each mobile unit being serviced by six forward links.

20 19. The base station controller of claim 14, wherein a forward link in a sector that has reached a Walsh code availability threshold is terminated.

20. The base station controller of claim 14, wherein the base station controller operates consistent with IS-95A, IS-95B, 1xRTT, or 1xEV-DO operating standards.

10035846.122401